Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated under the Federal law as a non-commercial institution for the increase of geographic knowledge and its popular diffusion.)

General Headquarters, Washington, D. C.

CONTENTS FOR WEEK OF JANUARY 2, 1923. Vol. 1. No.

- 1. How Telephone Inventor Experimented with Making a Dog Talk.
- 2. Around the World in 7 New Years.
- 3. Miami Beach: On America's Riviera.
- 4. Humanitarian Act Marks Birth of an Industry.
- 5. Ticino: Switzerland's Italian Canton.



THE REINDEER SEEMS AS UNWILLING TO BE LED ACROSS A STREAM AS THE HORSE OF THE MAXIM IS TO DRINK WATER. (See Bulletin No. 4.)

HOW TO OBTAIN THE BULLETIN

The Geographic News Bulletin is published weekly throughout the school year (thirty issues) and will be mailed to teachers for one year upon receipt of 25 cents (in stamps or money order). Entered as second-class matter, January 27, 1922, at the Post Office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1163, Act of October 3, 1917, authorised February 8, 1922.

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated under the Federal law as a non-commercial institution for the increase of geographic knowledge and its popular diffusion.)

General Headquarters, Washington, D. C.

CONTENTS FOR WEEK OF JANUARY 2, 1923. Vol. 1. No.

- 1. How Telephone Inventor Experimented with Making a Dog Talk.
- 2. Around the World in 7 New Years.
- 3. Miami Beach: On America's Riviera.
- 4. Humanitarian Act Marks Birth of an Industry.
- 5. Ticino: Switzerland's Italian Canton.



THE REINDEER SEEMS AS UNWILLING TO BE LED ACROSS A STREAM AS THE HORSE OF THE MAXIM IS TO DRINK WATER. (See Bulletin No. 4.)

HOW TO OBTAIN THE BULLETIN

The Geographic News Bulletin is published weekly throughout the school year (thirty issues) and will be mailed to teachers for one year upon receipt of 25 cents (in stamps or money order). Entered as second-class matter, January 27, 1922, at the Post Office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1163, Act of October 3, 1917, authorised February 8, 1922.



Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge) General Headquarters, Washington, D. C.

How Telephone Inventor Experimented with Making a Dog Talk

BELL A. GRAHAM r 1331 Conn. av. Franklin-58

The way his name was listed in the telephone directory of Washington gave an authentic hint of the character of the man who invented the telephone.

Telephone companies have two kinds of vanities to contend with. One class of subscribers wish special, distinctive numbers; in Washington alone there are more than a thousand of the second class who seek exclusiveness or would avoid possible annoyance by not having their names in the directory at all. The latter are known as "unlisted" telephones.

The inventor of the telephone exhibited neither of these vanities nor did he even insist, apparently, upon that almost universal preference that his name, (Alexander Graham Bell) should be printed in full.

More Than 8,000 Telephone Patents

Not long before his death, with the same sort of modesty, he told a group of officials of the U.S. Patent Office:

"I rather think that you know more about the telephone today than I do." He then called attention to the more than 8,000 patents relating to telephones granted since he obtained the original patent of March 17, 1876.

In connection with the observance of Dr. Bell's seventy-fifth birthday, on March 3, 1922, the National Geographic Society quoted from a communication to The National Geographic Magazine in which Dr. Bell asserted that his invention of the telephone really began with his grandfather, Alexander Bell, of London, England, who died the year our Civil War ended. Of his grandfather Dr. Bell wrote:

"He was an elocutionist and a corrector of defective utterance. He was the first in the family to take up the study of the mechanism of speech with the object of correcting defects of speech by explaining to his pupils the correct positions of the vocal organs in uttering the sounds that were defective."

Boyish Experiments with Speech

Dr. Bell then recounted the boyish experiments he made with vocal utterance, including an attempt to make a dog talk. And, on his seventy-fifth birthday, the inventor still was to be found in his laboratory, often working until 3 or 4 o'clock in the morning, experimenting with the same keen, boyish zest. Continuing his boyhood reminiscenses, Dr. Bell wrote:

"My father, Alexander Melville Bell, of Edinburgh, Scotland, was also an

elocutionist and corrector of defective utterance.

"I was always much interested in my father's examinations of the mouths of his elocutionary pupils. They differed in an extraordinary degree in size and shape, and yet all these variations seemed to be quite consistent with perfect speech. I then began to wonder whether there was anything in the mouth of a dog to prevent it from speaking, and commenced to make experiments with an intelligent Skye terrier we possessed.

Bulletin No. 1, January 2, 1923 (over).



THE TELL MEMORIAL: ALTDORF, SWITZERLAND

Historians do not agree that William Tell lived in flesh and blood; but that he lives in the spirit of Swiss love of freedom the world realizes. (See Bulletin No. 5.)

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Around the World in 7 New Years

HE American is apt to regard his New Year as THE New Year. Had he a penchant for celebrating holidays he could travel in a more or less leisurely way around the world, and in the course of the year could participate in six or seven New Year festivities, adding a couple of Christmas celebrations for good measure.

Our American might start his progressive holiday jaunt by going to some western European country for the New Year which the United States celebrated. He could then travel to Greece, Jugo-Slavia, Rumania, or Bulgaria in time for Christmas in those countries. Christmas is also December 25 in the countries named, according to their calendars, but corresponds to January 7 in America.

A Five Day New Year Period in China

By remaining a week in the same country he could also spend New Year Day, called January 1, but corresponding with the American and western European January 14. By using an airplane he might be able to reach Singapore, or China itself to take part in the most thorough-going New Year celebration in the world, the Chinese New Year which will be observed in 1923 for the five days from about January 26 to 31.

After the Chinese New Year celebration the traveler could pursue his holiday hunting less strenuously for awhile. He could arrange to arrive in Siam in time for the Siamese New Year on April 1, and afterward could have five months of sightseeing before reaching Arabia for the Mohammedan New Year on August 13. He could then cross the Red Sea and make a journey into Abyssinia to take part in the New Year festivities of that country on September 10. Again he would have to board an airplane to reach Jerusalem for the Hebrew New Year, September 11.

The holiday hunter would now have taken part in all the principal New Year celebrations of the world and could return to the Western hemisphere to spend the Christmas with which he is most familiar at his own hearth side. In six days less than a year he would have chalked up seven New Year and two

Christmas celebrations to his credit.

World's Calendars in a Tangle

The world's multiplicity of New Year Days and Christmastides is due to the fact that our calendar is largely an arbitrary device. The earth revolves around the sun in 365.2422 days, which makes the true year a very odd measure of time. And it is almost as difficult to choose a logical beginning for the year as it is to find the starting point of a circle. Different peoples have selected different starting points and have also assumed the year to be of slightly different lengths. This has not only resulted in the years beginning at different times but has also caused the times of beginning to vary in their relations to one another from year to year. It is as though a clock had half a dozen or more hands all moving around the dial from different starting points, at different speeds.

Bulletin No. 2, January 2, 1923 (over).

Trying to Make a Dog Talk

"By the application of suitable doses of food material, the dog was soon taught to sit up on his hind legs and growl continuously while I manipulated his mouth, and stop growling when I took my hands away. I took his muzzle in my hands and opened and closed the jaws a number of times in succession. This resulted in the production of the syllables 'ma-ma-ma,' etc., as in the case of the talking-machine.

"The mouth proved to be too small to enable me to manipulate individual parts of the tongue, but upon pushing upward between the bones of the lower jaw, near the throat, I found it possible to completely close the passageway at the back of the mouth, and a succession of pushes of this character resulted in

the syllables 'ga-ga-ga-ga,' etc.

"The simple growl was an approximation of the vowel 'ah,' and this, followed by a gradual constriction and 'rounding' of the labial orifice by the hand, became converted into the dipthong 'ow,' as in the word 'how' (ah-oo), and we soon obtained the final element by itslf—an imperfect 'oo.' The dog's repertoire of sounds finally consisted of the vowels 'ah' and 'oo,' the dipthong 'ow,' and the syllables 'ma' and 'ga.'

Animal Approximates a Sentence

"We then proceeded to manufacture words and sentences composed of these elements, and the dog's final linguistic accomplishment consisted in the production of the sentence 'Ow-ah-oo-gamama,' which, by the exercise of a little imagination, readily passed muster for 'How are you, grandmamma?'

"The dog soon learned that his business in life was to growl while my hands were upon his mouth, and to stop growling the moment I took them away, and we both of us became quite expert in the production of the famous sentence,

'How are you, grandmamma?'

"The dog took quite a bread-and-butter interest in the experiments and often used to stand up on his hind legs and try to say this sentence by himself, but without manipulation was never able to do anything more than growl.

"The fame of the dog soon spread among my father's friends, and people came from far and near to witness the performance. This is the only foundation for the many printed stories that I had once succeeded in teaching a dog to speak."

Bullet'n No. 1, January 2, 1923.

Note to Teachers

References to articles and pictures in The National Geographic Magazine concerning subjects treated in this Bulletin are given because many teachers wish to employ them for further study or for project and problem assignments. The following is only a partial bibliography extracted from "The Cumulative Index of The National Geographic Magazine" (1899-1922, inclusive). A limited supply of some numbers may be ordered from the Society's offices at the prices named. Those numbers marked with an asterisk (*) are out of print. Bound volumes of The Geographic may be consulted in any public library and in school libraries.

Bell, Alexander Graham: Discovery and Invention. Vol. XXV, pp. 649-655, June, 1914. (*)
Prizes for the Inventor: Some of the Problems Awaiting Solution. Vol. XXXI, pp. 131-146, 7 ills., Feb., 1917. 50c.
Prehistoric Felephone Days. Vol. XLI, pp. 223-241, 17 ills., March, 1922. (*)
Miami Aquarium: Treasure House of the Gulf Stream. By John Oliver La Gorce. Vol. XXXIX, pp. 33-68, 5 illustrations, in black and white, 16 ills. in color, Jan. 1921. 50c.
Reindeer: The Camel of the Frozen Desert. By Carl J. Lomen. Vol. XXXVI, pp. 588-556, 19 ills., Dec., 1919. (*)
Reindeer in Alaska. By Gilbert H. Grosvenor. Vol. XIV, pp. 126-149, 17 ills., 1 half-page map, April, 1903. (*)
Alaska: For more than 70 articles on Alaska in

Alaska: For more than 70 articles on Alaska in The Geographic see Cumulative Index of the Geographic Magazine (1899-1922 inclusive). This

index is 200 pages, size of the magazine; cloth, \$1.50; postpaid in U. S. A. from the Society's

headquarters.

Alaska: Also see "The Valley of Ten Thousand Smokes." By Robert F. Griggs, Leader, Katmai-Alaska Expeditions of the National Geographic Society. 350 pages; 262 engravings and color plates, 7 special maps. Cloth, \$3.00, postpaid in U. S. A. Especially adapted for science classes. Switzerland: The Ascent of Mont Blanc. By Walter Woodburn Hyde. Vol. XXIV, pp. 861-942, 69 ills., August, 1913. (*)

August, 1913. (*)
The Millenial City: The Romance of Geneva, the
Capital of the League of Nations. By Ralph A.
Graves, Vol. XXXV, pp. 441-456, 11 illustrations,
June, 1919. 50c.
Scenes in Switzerland. Vol. XXI, pp. 257-258, 1
insert, 13 ills., March, 1910 75c.
A Woman's Climbs in the Alps. By Dora Keen.
Vol. XXII, pp. 642-675, 26 ills., July, 1911. 75c.

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Miami Beach: On America's Riviera

R ECENT arrangements between the United States and Great Britain by which Barbados cable lines now may enter Miami recall the occasion when, in 1920, for the first time since the Civil War a southern port was blockaded by United States warships.

Happily, however, says a communication to the National Geographic Society, by John Oliver La Gorce, the 1920 incident was no crisis brought about by a demand for State Rights. The American warships were there to prevent a cable ship entering the port of Miami, southernmost city of the Floridean mainland, and fourth most populous city of the State.

Where Grapefruit Comes From

Nestling beside the beautiful waters of Biscayne Bay and separated from the Atlantic only by the peninsula of Miami Beach, the city has rapidly come into its own, due to the strategic geographic location it occupies on the South Atlantic Coast, and it gives promise to rival Jacksonville as a port of call. When one realizes that one-third of all the grapefruit in the United States comes from the county in which Miami is situated and that one-fifth of all the animal life in America north of Panama is to be found in the waters of the Gulf Stream which lave the golden strand of Miami Beach in its front yard, and that there is great potential agricultural wealth of the Everglades at its back door, small wonder that Miami has grown, as shown by the last census report, 440 per cent.

Blessed with a year-round climate that rivals the Riviera, with ever-blowing trade winds that temper the semi-tropical sun, Miami bids fair to take rank with any city of its size in the United States for development along highly

profitable and thoroughly business-like lines.

It is not surprising that a telegraph company desired to bring the Barbados cables into Miami instead of Key West, a hundred odd miles south of this point; but there was a diplomatic hitch about England's control of cables which caused this practically unheard-of situation of United States war vessels blockading a United States port in the time of peace.

Why Fish Study is Essential

During the winter months there are nearly as many traffic policemen on Miami's well-paved streets as there are in the National Capital, ten times its size. One of the most important developments of Miami Beach was the inauguration and completion of the Miami Aquarium and Biological Laboratory, located at the Beach terminus of the wonderful 100-foot causeway stretching three miles which spans Biscayne Bay, connecting the city with the ocean beaches. As scientists generally agree that all land animals came originally out of the sea, the study of the myriad forms of life in the tropical seas will, it is believed, develop links between the sea and land animals that will add much to the world's knowledge of this important question. Since the question of food has been accentuated as an aftermath of the World War, the eyes of economists have turned to the warm seas to develop the possibilities of its innumerable fishes.

Bulletin No. 3, January 2, 1923 (over).

The most logical starting points for the year would seem to be summer and winter solstices and the spring and autumnal equinoxes; and all of them have been made to mark the beginnings of the years in some parts of the world. The Gregorian calendar, now in use in the United States and throughout most of the Christian world, is the Julian calendar slightly modified. When Julius Caesar caused it to be constructed, the beginning of the year, January 1, was placed seven days after the winter solstice, and not in conjunction with it as logic would seem to dictate. The Julian year was made, by means of the 'leap year' device, 365.25 days long, which was an excess over the true year of 11 minutes and 14 seconds. This excess caused the nominal January 1 to creep gradually farther and farther beyond the winter solstice so that by the time of the Church Council of Nice in 325 it was eleven days beyond the solstice instead of seven.

New Year Day Moving Toward Summer

By the time of Pope Gregory's correction in 1582, January 1 was 21 days beyond the solstice and Christmas 14 beyond. If the calendar had remained uncorrected, New Year Day would have gone on creeping forward, first into

spring, then into summer, and finally completely around the year.

When the correction was made the calendar was turned back not to its original position in the time of Julius Caesar, but to its place at the time of the Council of Nice. December 25, which became Christmas, then fell four days after the winter solstice instead of coinciding with it as Julius Caesar intended; while New Year day was eleven days beyond the solstice instead of Caesar's almost equally arbitrary seven. The calendar is now kept practically at its Gregorian resting place by the expedient of failing to add the extra leap year day three times in the course of 400 years—on the century years not divisible by 400. The remaining error is so slight that it would amount to little more than a day in 100,000 years.

Greeks Stick to Faulty Calendar

In the meantime, the countries in which the Greek Church is dominant have refused to accept the Gregorian corrections and continue to use the old style or Julian calendar. The difference, which was ten days in 1582, has now increased

to thirteen days.

Soviet Russia has officially adopted the Gregorian calendar for civil purposes and the same step has been taken by most of the Baltic States made up of territory of the former Russian Empire. The Gregorian or "New Style" calendar also is coming into more general use in Asia due to the commercial penetration of western countries. As a result of the Great War, directly or indirectly, the world is now closer than at any time in its history to having a single, astronomically correct system of measuring time.

Bulletin No. 2, January 2, 1923.

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Humanitarian Act Marks Birth of an Industry

WILL reindeer raising become the major industry of Alaska, eclipsing the value of the fisheries' product, and surpassing even the worth of the gold output at the height of the prospectors' activities in the late nineties?

The industry is a remarkable example of how government bread cast upon the waters may return, for it is less than three decades since the first reindeer were imported into Alaska from Siberia, to help the Eskimos. The Bureau of Education, Department of Interior, performed the humanitarian service which unwittingly marked the beginning of an industry which now registers more than 200,000 animals, in addition to more than 100,000 which have been butchered for food and clothing since their importation.

Recent reports of the plans to introduce reindeer herds in Canada to augment the Dominion's meat supply and to utilize land not known to be available for any other form of husbandry, make the status of the industry already

established in Alaska a subject of special interest.

Million Reindeer Predicted

Given another ten years, with aid similar to that which the government extends to other animal industries, and, it is predicted, Alaska will range more than a million reindeer, a number which is held to be greater than the aggregate of the herds of Norway, Sweden and Finland combined.

Alaska is estimated to contain an area equivalent to that of California and Arkansas combined which is suitable for grazing reindeer, and not suitable for farming or other animal raising. This vast area would afford pasture for

millions of reindeer.

More than 1,000 Eskimos still own 70 per cent of the reindeer, a firm of white owners holds about 12 per cent; the government, the missions, other firms, and the Lapps control the remainder.

Will Augment Meat Supply

The reindeer ranchers hold forth the hope that they will be able to contribute materially to the meat supply of a mounting population in the States, where there is concern about the dwindling areas for grazing in the West. They point out that approximately 200,000 animals with a meat valuation of three-quarters of a million dollars were available for the market during 1920. Shipment of 1,600 carcasses, approximately a quarter of a million pounds, valued at some \$60,000, was made to the States in that period. Cold storage plants, with facilities for handling 12,000 carcasses yearly, already have been built.

The pioneer firm of white men engaged in the reindeer industry is located at Nome, on whose beach the placer gold miners pitched their tents in 1899. Their herds range over the Seward peninsula and upon Nunivak Island. Their cold

storage plants are located at Nome, Keewalik, Golovin and Egavik.

Reindeer meat is shipped, frozen, to Seattle, and refrigerator cars carry it to the inland disributing center, Minneapolis. It is not a game meat, rather it

Bulletin No. 4, January 2, 1923 (over).

Just as the shoemaker's child is proverbially without footwear, so it was that there was no aquarium or biological station on the entire Atlantic Coast south of Philadelphia, and, consequently, no extensive and adequately equipped and situated institution to which the ichthyologists of the country could make pilgrimages and study at first hand the wonders of the fauna of the Gulf Stream. Until two years ago these specialists in zoology traveled to the Aquarium at Naples, Italy, and to other European institutions, simply because there was no place on the warm seas surrounding the southern part of our own continent where they could have the means at hand to pursue their highly important work.

Gulf Stream Abounds in Fish

Completion of the Miami Aquarium, however, opened to the scientists a most acceptable opportunity, for not only is the aquarium located but forty hours from New York and Chicago, but in the waters of the Gulf Stream are to be found practically all the forms of fish life and ocean flora that have been discovered in the Mediterranean, and many others in addition.

Only two years ago an entirely new species of Tuna, one of the most valuable food fishes in the world, was located and described by the Director of the Miami Aquarium, and if these great fishes of the horse-mackerel family can be developed in a commercial way it will have an interesting bearing on the problem of lowering the high cost of living.

Coconut Palms and Tropical Flowers

The ocean beaches adjacent to Miami, fringed with giant coconut palms and other tropical plants and flowers, its golf courses, polo fields, and facilities for every outdoor sport, including aviation, speedboat racing, and sport fishing, are attracting scores of thousands of visitors annually.

Bulletin No. 3, January 2, 1923.



WHERE A KNOTTED STRING IS THE ONLY CALENDAR. (Bulletin No. 2.)

This is the platform in front of a Dayak "long house" in Sarawak. To the cluster of poles at the right, which mark entrances to the rooms, each occupied by a family, are attached charms to protect inmates from disease and evil spirits.

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge) General Headquarters, Washington, D. C.

Ticino: Switzerland's Italian Canton

A MAJOR item of geographical news arises from the accession of the Fascisti in Italy because of Mussolini's reported announcement that his government will seek the transfer of the Swiss Canton of Ticino to "Greater Italy."

Italy's irredentism, born in the late seventies of the last century, bore fruit when the Trentino region came to her after the World War. With that encouragement it is not surprising that her dream of uniting Italians under the

Italian government should persist.

Ticino is so situated and so populated that it could not well help being the next place for the irredentist lightning to strike. This canton makes a trowellike thrust into the saw-tooth boundary of northern Italy-a thrust which becomes especially conspicuous since similar Austrian projections were ironed out.

At the Tunnel's End

There is no gainsaying that Ticino is thoroughly Italian in race, language and culture. It is a question, however, whether the Ticinese wish to forego their hard won status as a fairly autonomous unit of the Swiss confederation for government by their home land. Across the Alps lies Italy, for the southward traveler through the Simplon tunnel. To all appearances the south-bound passenger emerging from the St. Gothard tunnel also is in Italy. The little town of Airolo has every aspect of the "Land of the Madonnas" and down the course of the Ticino River into that wondrous valley of plenteous waterfalls, the Leventina, the people, the scenery, even the vegetation is distinctively Italian.

However Airolo is on the northernmost frontier of the Swiss Canton, and after passing town after town which exerts the spell of Italy, the traveler finds himself at Ticino's capital of three castles, Bellinzona, where the St. Gothard

line forks.

Locarno beckons from the east, only fourteen miles away, and Lugano allures him to the south. Having gotten this far into Switzerland's Italian Canton, where American visitors are few and German guests formerly were many, the wise traveler would see both.

Lowest Spot in Switzerland

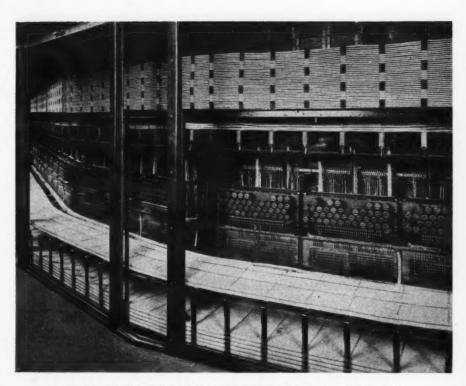
Locarno offers the famous Convent of Madonna del Sasso, with its magnificent view along the Maggia Valley and across the Maggiore Lake. valley is one of the deepest in the Alps and its river gathers in the torrent waters from many tributary vales. Being less than 700 feet above sea level is a distinction in the land of the Alps, in fact Locarno can advance a tenable claim to being the lowest spot in Switzerland.

Lugano aspires to a more far-reaching superlative—to that of occupying the most beautiful location in Europe. Rivals are many for that distinction but when one submits to the spell of the lake-encircled Monte San Salvatore and Monte Generoso across the Lugano waters he is likely to throw discrimination to the winds in unquestioning enjoyment of his hours amid such beauty. If "scenic

Bullet'n No. 5, January 2, 1323 (over).

tastes most nearly like mutton, according to some connoisseurs. Others compare it to beef. Already it has found place on menu cards of hotels and retail dealers have developed a steady demand for it in some western communities.

Bulletin No. 4, January 2, 1923.



REAR VIEW OF A PART OF A TELEPHONE SWITCHBOARD. (See Bulletin No. 1.)

determination" figured in politics the almond and the orange trees, the meadows and the groves, all shout aloud that the austere grandeur of the Swiss Alps have here given way to the softer seduction of an Italian landscape.

Ticinese Founded Delmonico's

The Ticinese are industrious growers of vineyards and gardens. Their canton is smaller in area than Rhode Island. Despite mountains and glaciers they have two-thirds of it under cultivation.

Industry is so little developed that men must farm or migrate, and so many of them leave that women are in the majority by several thousand. Sons of Ticino founded the silk industry in Zurich and established Delmonico's in New York.

Bulletin No. 5, January 2, 1923.



LAUTERBRUNNEN AND THE SPRAY BROOK, SWITZERLAND

Nature provides the scenery which makes Switzerland a playground of the civilized world; but note that the energetic Swiss provide magnificent highways, often built under difficult conditions, which help make these beauty spots accessible. (See Bulletin No. 5.)

